4. "On Ground-gru, or ice formed, under peculiar circumstances, at the bottom of running water." By James Farquharson, LL.D., F.R.S., Minister of the Parish of Alford.

The author brings forward in this paper several recent observations on the formation of ice at the bottom of rivers, the conditions of which corroborate the views regarding the cause of that phenomenon, which he presented in a paper on this subject, published in the Philosophical Transactions for 1835 (p. 329), namely, that it occurs in consequence of the loss of heat by radiation from the bottom of the water, in a manner precisely analogous to the formation of hoar-frost on the surface of dry land, as first explained by Dr. Wells. He then answers some of the objections to that theory propounded in an article, under the title of GROUND-GRU, in the Penny Cyclopædia, and shows that those objections are founded in error, and possess no validity.

5. "Meteorological Observations made at the Magnetic Observatory at St. Helena, from February to October 1840." By Lieut. J. H. Lefroy, R.A.

6. "Meteorological Observations made at the Magnetic Observatory at Toronto, Upper Canada, from January to October 1840." By Lieut. E. J. B. Riddell, R.A.

7. "Observations on Magnetic Direction and Intensity made at the Observatory at Milan during the 24th, 26th and 27th of January 1841." By Prof. Carlini.

8. "Note on an irregularity in the Height of the Barometer, of which the argument is the Declination of the Moon." By Sir John William Lubbock, Bart., V.P. and Treas. R.S.

In the Companion to the British Almanac for 1839, the author inserted some results which were obtained with a view of ascertaining the influence of the moon on the barometer and on the dew-point. Mr. Luke Howard's researches on this subject having recalled his attention to that paper, he found that some of the results he had given appeared to indicate that the moon's position in declination influences the barometer. In order to render this more manifest, he combines in the present paper all the observations he gave in the Companion to the British Almanac in three categories. These observations correspond to different angular distances of the moon from the sun, or times of transit; but as the inequality of the ocean, of which the argument is the moon's declination, is independent, or very nearly so, of the time of the moon's transit, it is probable that so also is that in the height of the barometer. In this case we may with propriety combine in the same category observations which correspond to similar declinations, although to different times of transit. The results stated by the author seem to indicate an elevation of nearly one-tenth of an inch for 17 degrees of declination.